

Appendix A: DEP's Programmatic Milestones and Measures of Success and BWM Watershed Protection Plan Accomplishments and Activities

The Massachusetts Department of Environmental Protection Division of Water Supply published in April, 1996 the "Program to Measure Success of Watershed Protection Efforts Conducted by Public Surface Water Suppliers to Obtain, and Maintain a Waiver from Filtration.". This document specifies DEP's process for assessing requests for filtration waivers and criteria – termed "programmatic measures" – to measure the success of the water supplier's watershed management efforts. BWM and MWRA successfully met this criteria in 1998; this table presents only those criteria necessary to maintain a waiver from filtration.

Item	DEP's Measures of Success to Maintain a Waiver	Status	BWM's WPP Accomplishments and Activities (Summarized)	WPP Section
1. Watershed Control				
a.	Present evidence to DWS during annual inspection that land use protection measures which have been enacted to address HIGH, MEDIUM, LOW impact activities are working to reduce impacts (i.e., through a description of the regulatory authority's procedures for reviewing proposed developments; summary of projects approved since the last annual inspection, etc.).	Documentation available at BWM offices	BWM's implementation of the various land use controls in its Watershed Protection regulations (350 CMR 11.00) provides extensive watershed protection from certain land use activities within private lands and waters and on BWM managed lands and waters in the watershed. BWM staff specifically reviews all development activities falling within the WsPA's protection zones according to the regulations. BWM staff regularly communicate with local boards (e.g., conservation commission) to support local land use controls. BWM maintains a library of all watershed town bylaws.	5.2.1
b.	Provide evidence to water supplier input to local regulatory review processes.	Documentation available at BWM offices	BWM fund studies and contributes technical expertise to revise watershed town subdivision by-laws. BWM staff provide regulatory and technical input to local boards (e.g., BOH or conservation commission).	8.1
c.	Provide copies of any changes in local zoning regulations affecting water supply protection to DWS during the annual on-site inspection.	Documentation available at BWM offices	BWM maintains a library on all watershed towns' bylaws, with a focus on those related to land use activities such as subdivision/residential development and earth removal.	5.2.1, 8.1

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d.	Provide evidence of regular watershed inspections to monitor effectiveness of protection measures and to identify new impacts to source.	Documentation available at BWM offices	BWM's expansive water quality monitoring and Environmental Quality Assessment programs monitor the effectiveness of the watershed protection program, existing land use controls, and ensure that any new water quality impacts are quickly identified and remediated. BWM also conducts target monitoring aimed at assessing the effectiveness of specific protection measures.	5.1, 5.3
e.	Provide evidence that newly identified impacts have been adequately addressed through land acquisition, deed control, or other protection measures.	Documentation available at BWM offices	There are very few land use activity impacts in the Wachusett Reservoir watershed as evidenced by water quality data. These are limited to roosting gulls, addressed by the gull control program. BWM has various programs in place to adequately control newly identified impacts. These programs include land acquisition, where necessary to halt a significant problem, as well as targeted areas such as development, public access, wildlife, agriculture, wastewater disposal, storm water, rights-of-way, contaminated site, emergency situations, construction, gravel mining.	2.4, 4 - 8
2. Public Access/Recreation				
a.	Provide evidence of implementation of management plan.	Documentation available at BWM offices	BWM has implemented the key components of the Wachusett Public Access Plan, including: maintenance of allowed and prohibited activities and areas, supporting the Watershed Ranger Program, and installing signs (gate, trail, and informational kiosks).	4.2.1
b.	Provide evidence (logbook) of sufficient inspections on water supplier-owned lands to monitor public use; enforcement of rules and resolution of violations.	Documentation available at BWM offices	Watershed Rangers keep daily logs of public's use and activities on BWM lands and waters. Watershed Rangers continue to enforce public access regulations, in partnership with State Police, EPOs, and local police departments. The Chief Ranger compiles statistics from each ranger's logbook each month.	4.2.1
c.	Show proper upkeep and management of water supplier-owned lands.	Meets	BWM has an acclaimed forestry program, aimed at increasing forest diversity to protect long-term water quality.	4.2.3
d.	Update public access/recreation plan as needed.	Meets	BWM updated the Wachusett Public Access Plan in 2003. BWM will update these plans as needed.	4.2.1
3. Wildlife Management				
a.	Present evidence (logbook) of regular inspections for wildlife impacts and address/eliminate impacts as needed.	Documentation available at BWM offices	BWM's wildlife biologist maintains records of all sightings, surveys, and actions (including animal removals).	4.2.2

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b.	Continue conducting water quality monitoring program to assess wildlife impacts.	Meets	BWM's water quality monitoring is designed to capture all potential pollution sources, including wildlife sources. Specifically, monitoring of tributaries and in-reservoir sampling within the Pathogen Control Zones, serve to identify possible wildlife impacts. In addition, research and development of emerging laboratory methods for analyses is being conducted by UMass for BWM.	5.1
c.	Update management plan as needed.	Meets	The <i>Wachusett Reservoir Watershed Land Management Plan: 2001 – 2010</i> was adopted in August, 2001. BWM will update its management goals, objectives, and activities as needed.	4.2.3
d.	No disease outbreaks associated with wildlife.	Meets	There are no known waterborne disease outbreaks associated with the Metropolitan Boston water system.	5.1
4. Infrastructure Improvements				
a.	Verify no new impacts to source from municipal activities/facilities.	Meets	BWM's extensive water quality monitoring program, Environmental Quality Assessment program, Watershed Protection Act administration, and community technical assistance, monitor and ensure no new impacts from municipal activities.	5, 8.1
b.	Provide evidence that infrastructure maintenance and improvements are proceeding per schedule.	Documentation is available at the BWM and MWRA offices.	BWM makes regular and systematic infrastructure inspections	7.1
c.	Provide evidence of additions to schedule, as needed.	Meets	BWM will update schedules as needed.	7.1
d.	Provide evidence of continued inspections, maintenance, and repairs to water supply intake and any dams, and that pump-house continues to be secured against unauthorized entry.	Documentation is available at MWRA offices.	MWRA and BWM have ongoing maintenance programs in place.	7
5. In-lake Problems				
a.	Maintain lake health; provide evidence of continued regular inspections and log of monitoring data.	Meets	BWM's water monitoring program is on-going. BWM conducts annual planning of most programs.	2.4, 5.1, 5.3

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b.	Provide evidence of addressing any new or recurring problems in a timely manner.	Meets	BWM was able to address in-lake impacts from roosting birds	4.2.2
c.	Adjust monitoring locations as needed.	Meets	BWM adjusts locations as needed, conducting annual planning of the monitoring program. In addition, special studies are done to supplement routine monitoring.	5.1, 5.3
6. Sampling				
a.	Continue to meet all sampling requirements outlined in 310 CMR 22.00 and in the Watershed Protection/Control Program.	Meets	MWRA and BWM water quality sampling is ongoing. MWRA conducts regulatory source water quality monitoring at the intakes in accordance with 310 CMR 22.00 and the IESWTR. BWM conducts routine regulatory water quality monitoring throughout the watersheds and reservoir.	5.1
b.	Show, through monitoring and trend analysis, no degradation of water quality.	Documentation is available at BWM offices.	Since BWM began extensive watershed protection program which included enhanced water quality monitoring, the data indicates that reservoir water quality has improved or stayed the same. BWM publishes annual water quality reports to integrate the extensive data collected in the watersheds and reservoir.	2.4
7. System Operation/Maintenance				
a.	Update management and operating procedures.	Documentation at MWRA offices.	MWRA updates its procedures as needed.	7
b.	Update inspection and maintenance program as needed.	Documentation at MWRA offices.	MWRA updates its C & M program as needed.	7
c.	Maintain repair log.	Documentation at MWRA offices.	MWRA maintains its repair log.	7
8. Staffing				
a.	Continue to show sufficient and qualified staff, or are on-schedule with meeting those needs.	Meets	DWM expanded its staff significantly following the 1991 plan. Several additional positions (currently vacant or new) are planned in the 5-year period.	9
b.	Document that training schedule is being met.	Documentation available at BWM offices.	BWM provides ongoing training for its staff using conference seminar attendance, in-house training, and specialized training from other state agencies (e.g., DEP).	9

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c.	Show that water supply operation and maintenance continues to be carried out by qualified individuals.	Documentation available at MWRA offices.	MWRA operators at the Cosgrove Intake hold required certification and are well trained. BWM staff are well qualified, representing various professional degrees and certifications.	7, 9
d.	Have provided water supply reference and training materials for staff use.	Meets	BWM has a large library of watershed protection and management documents. The MWRA library also serves as a reference resource for BWM staff.	9
9. Emergency Planning/Response				
a.	Conduct annual water supply-related drill and provide write-up, noting problems and corrective actions (coordinate with other towns in watershed, if applicable).	Meets	BWM staff completed an emergency response program with a planned water supply related response drill in collaboration with local and state agency personnel. MWRA has completed several emergency drills in conjunction with other agencies.	6.3.2, 7.2
b.	Review and update plan annually.	Meets	BWM will review its response programs annually and update as needed.	6.3.2, 7.2
c.	Inspect watershed for conditions conducive to spills/accidents; remove or control problem where possible.	Meets	BWM prepared the Transportation Release Controls Study, has prioritized the recommendations, and is implementing strategies to reduce the risk of accident or spill.	6.3.2, 7.2
d.	Maintain contact with high impact land users upstream.	Meets	BWM has inventoried underground storage tanks (UST), working with local fire departments during removal. BWM monitors DEP's database of hazardous materials generators and past releases. DEP and local fire departments notify BWM in case of a spill.	6.3.2
e.	Maintain signs.	Meets	BWM posts and maintains numerous signs along property boundaries, access gates and barways, and popular stops throughout the watershed. (Section 4.3).	4.2.1
f.	Conduct at least one emergency response-related event from educational program annually.	Meets	Education program incorporates many different elements, including spills/emergencies.	6.3.2, 8.2
10. Education/Multi-town Coordination				
a.	Provide evidence of implementation of educational programs, conduct at least one major educational seminar yearly.	Meets	Watershed Rangers have presented approximately 200 school programs. From 1998 to 2003, the Bureau has held 122 workshops, training 1,757 teachers to use Project WET materials.	8.2
b.	Review and update programs annually, at minimum.	Meets	BWM updates its education programs annually.	8.2

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c.	Provide evidence of continued exchange of maps, updated plans, and new/updated local regulations/bylaws, where applicable.	Documentation available at BWM offices.	BWM provides updated WsPA maps to towns upon request. Public Access maps are available upon request and are also posted on the Bureau's website. The Bureau, through its Technical Assistance program, has sponsored the development of community Master Plans and Public Access Plans.	5.2.1, 8.1, 8.2
d.	Hold public forum for local officials and staff at least once per year to discuss water supply-related issues; for multi-town watersheds: invite local officials and staff from other towns.	Meets	Public meetings were held to discuss the Wachusett Reservoir Watershed Land Management and Public Access Plans.	4.2.1, 4.2.3, 9
e.	Where regional water supply, protection committees have been established, provide evidence of regular meetings and activities.	Documentation available at BWM offices.	WSCAC meetings are held regularly. The Watershed Advisory Group has been consulted in the development of all Bureau Plans.	9
f.	Where regional water supply, new project notification process has been established, provide evidence of project review.	Documentation available at BWM offices.	BWM has access to and utilizes the opportunity to comment on state and local permit applications.	5.2